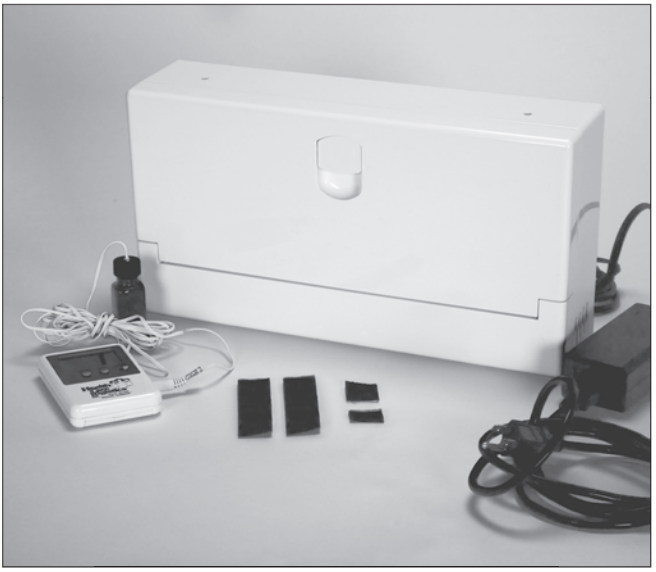
Petite Fridge™ Users Manual

Thermoelectric Medication Refrigerator

(#18102, 18103, 18104)

#18102 **#18103** **#18104**

Important Safety Information: Read and follow all instructions and warnings prior to using this product. SAVE THESE INSTRUCTIONS.



Includes:

- Refrigerator
- Power Supply
- Traceable Memory Monitor Refrigerator Thermometer
- Dual Lock for power supply mounting
- Dual Lock for probe mounting

Call Free 1.800.848.1633 or 1.888.HCL-INTL Fax Free 1.800.447.2923
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Safety Instructions

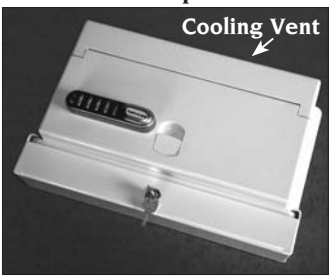
Warning: Use this product only for its intended purpose as described in this user's manual. READ AND FOLLOW THIS SAFETY INFORMATION CAREFULLY – SAVE THESE INSTRUCTIONS.

Safety Precautions: When using any electrical appliance, basic safety precautions should be followed, including the following:

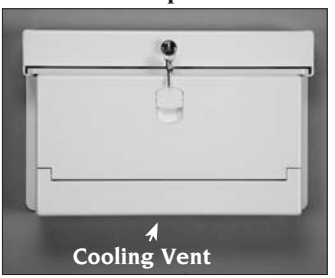
- This refrigerator must be properly installed and located in accordance with the installation instructions before it is used.
- The Petite Fridge™ should never be submerged in liquid or exposed to excessive moisture.
- The Petite Fridge™ has air vents on the bottom and on the sides. DO NOT BLOCK THE VENTS. When connected to a power source, these areas must be free to circulate air. Do not connect the Petite Fridge™ to a power source when it is in an enclosed area such as a cabinet or a drawer.
- Unplug the refrigerator before cleaning and making repairs.
- Because of potential safety hazards under certain conditions, we strongly discourage the use of an extension cord. However, if you must use an extension cord, it is absolutely necessary that it be a UL-listed (in the U.S.) or CSA-listed (in Canada), 3-wire grounding type appliance extension cord having a ground-type plug and outlet and the electrical rating of the cord be 15-amp (minimum) and 120 V.

Note: *This refrigerator may be operated in either a horizontal or vertical position. When used in the vertical position, make sure that the cooling vent is always positioned at the bottom and never covered.*

Desktop mount / Horizontal position



Wall mount / Vertical position



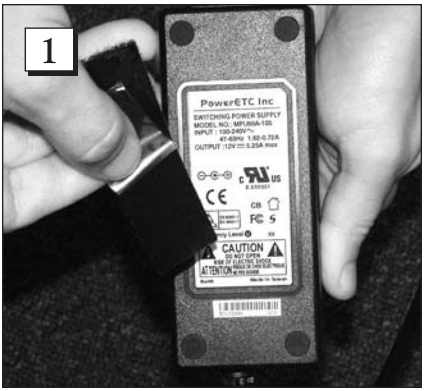
Note: *The unit requires a mount if attaching to a wall. Desktop mounts are for optional security.*

Operating Instructions

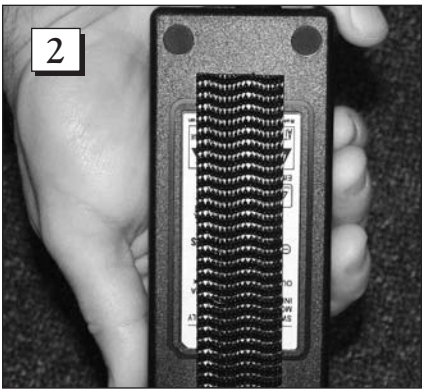
1. Connect the refrigerator to an approved power source as described on page 3.
2. To connect the power cord, insert the barrel connector into the mating socket connection on the bottom of the refrigerator. Modifying the power cord, or using a cord that was not supplied by HCL, can damage the unit and jeopardize the unit's effectiveness.
3. To operate, simply connect the power cord and move the switch to the "ON" position. A 'green' LED light at the bottom of the unit indicates that the unit is "ON".
4. This unit has a latch handle on the front of the unit. Pull the latch to open the unit. To close the door, press the door firmly shut and the latch will lock into place.
5. The temperature controls are preset in the unit to thermostatically maintain the unit within the USP Standard Range for Controlled Cold Temperature of 36°F to 46°F. The user cannot change or select the desired temperature.
6. Allow 24 hours for the temperature to stabilize to preset recommended settings.
7. This unit will not chill items as fast as a conventional refrigerator. Please don't expect it to do so. An empty refrigerator will cool down in about 3 hours. Warm items placed in the refrigerator will slow the cooling rate, as will the amount of items placed inside. It is recommended that pre-cooled items be placed in the unit (an item that is transferred from an already refrigerated environment). Cooling times and the rate of cooling of an item could be affected by its size/volume (i.e. the larger the total volume of an item placed in the unit, the longer it would take to cool.) Room temperature/warm items placed inside will raise the overall temperature inside the unit until they stabilize.
8. Like a conventional refrigerator, the Petite Fridge™ stops cooling when unplugged. It will maintain safe temperatures for a limited time of approximately 30 minutes when room temperature is at 71°F or cooler.

Mounting Power Supply

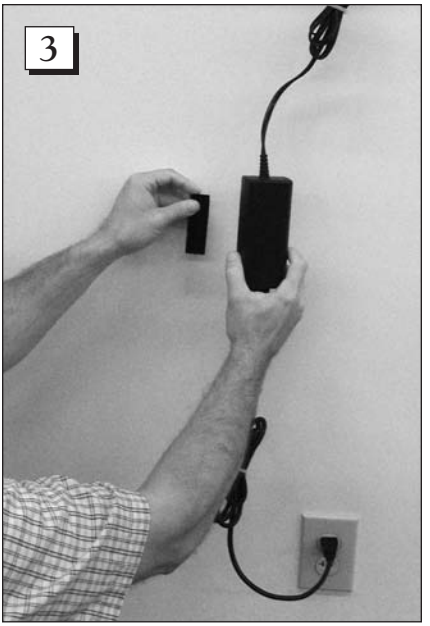
HCL recommends attaching the power supply to the wall or a surface with the provided dual lock tape. If the unit is not attached, the weight of the power supply could cause the unit to come unplugged.



Step 1. Peel the protective backing from the dual lock.



Step 2. Apply the larger piece of dual lock to the back of the power supply.



Step 3. With one hand holding the power supply and the other holding the remaining piece of long dual lock, position both to allow enough slack so as not pull the barrel connector out of the refrigerator.

Note: *Wire tie the remaining wire with the provided wire ties, so it is not a trip or snag hazard.*

Thermometer with Alarm

The Petite Fridge™ comes with HCL's #10368 Traceable Memory Monitor Refrigerator Thermometer, which uses a probe sealed in a miniature bottle filled with nontoxic glycol solution. This glycol solution provides a medium that allows for a consistent measurement of temperature when used in this refrigerator and doesn't cause fluctuations when the door is opened during normal usage. A triple display simultaneously shows high, low and current temperatures of the unit.

The thermometer has an alarm that may be set in one-degree increments. An alarm sounds when the temperature rises above or below the set points of 36°F to 46°F or the USP Standard Range for Controlled Cold Temperature. It is important to place the probe in the refrigerator so that the wire exits the refrigerator door in one of the upper corners to the door adjacent to the top of the unit. The unit can be mounted on the wall with Velcro, dual lock or double-sided tape. See next page for proper placement & mounting of probe.

Note: *Operating instructions for the thermometer are included and can be found on our website: www.healthcarelogistics.com*

Locking Options

The unit is available in three variations: Without a lock (#18102), with an electronic keypad lock (#18103) and with a keyed lock (#18104). The electronic lock utilizes a keypad with a four-digit user-defined code for entry. The locking mechanism increases the security of drugs requiring cold storage.

Proper Placement & Mounting of Probe

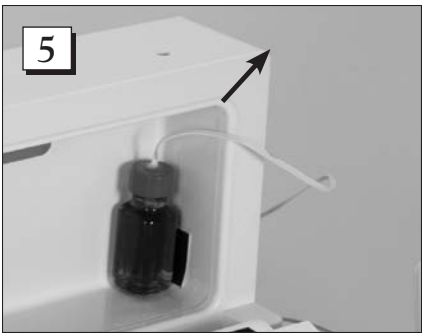
Step 1. Gather probe & one piece of dual lock. Peel the protective backing from the dual lock.

Step 2. Firmly press the dual lock onto the side of the probe.

Step 3. Peel the protective backing from the other piece of dual lock. Place it on the side wall of your Petite Fridge toward the bottom and back as pictured.

Note: *This probe location in the photos above will be the same for wall mount or surface mount.*

Step 4. Position the probe bottle against the dual lock so that it's touching the back and bottom of the refrigerator. Press the dual lock side of the probe against the dual lock in the refrigerator.



Step 5. When closing the Fridge door, guide the wire from the thermometer out the top on an angle. Make sure the cord lays flat to minimize air leak.

Note: *For the most accurate reading, probe must make contact on three sides with the refrigerator.*

Description of Product

The Petite Fridge™ employs a compact design. It was developed to provide a convenient and affordable way to keep medicines that need to be refrigerated at USP Controlled Cold Temperature. It was also designed to meet the American with Disabilities Act of 1990 (ADA) Guidelines for wall mounting of protruding objects in a health facility specifically in or near a patient's room where overall size is paramount.

The Petite Fridge™ utilizes thermoelectric technology to protect the integrity of its contents. Thermoelectric cooling offers superior performance in place of large refrigeration units that require a compressor for operation.

The unit can be used in either a desktop or wall mount orientation. It is virtually maintenance free and runs quietly because it has only one moving part (an air intake fan).

The Petite Fridge™ works thermostatically to control the temperature and will cool as much as 35°F (19.4°C) below room temperature. The USP Standard Range for Controlled Cold Temperature is between 36°F and 46°F. The optimum room temperature range of operation is between 69°F and 73°F. The internal thermostat will automatically activate to keep the temperature within USP limits at the low end of the range. The user cannot change or select the desired temperature.

How the Unit Works

The unit cools by supplying 12V of DC current through a medium. The positive side of the medium becomes warm while the negative side becomes cold. The cold is then transferred throughout the plastic internal storage space. A hard-wired thermostat, located on the back of the unit, controls the temperature within the USP limits. The air intake fan, on the bottom of the unit, is used to bring room temperature air into the unit to cool the heat sink which is connected to the positive side of the medium. The warm exhaust air exits through the vents on both sides of the unit. For this reason it is important to allow plenty of room for the unit to breath, so as to not to recirculate warm air into the air intake.

About Thermoelectric Cooling (How It Works)

Thermoelectric technology uses an instrument called a Peltier device or a thermoelectric cooler (TEC) to create a heat flux between the junction of two different types of materials. A Peltier cooler or thermoelectric heat pump is a solid-state active heat pump which transfers heat from one side of the device to the other side against the temperature gradient with consumption of electrical energy. As such, the Peltier device as employed in this Petite Fridge™ is used for cooling.

Perhaps you've already come across this technology if you are a camper, as the Coleman® company sells such a device that you can plug into a cigarette lighter in your vehicle. Such units are actually set up to both heat and cool.

Health Care Logistics incorporated this thermoelectric technology into the Petite Fridge™ which incorporates a special preset internal solid-state temperature switch set at 37.4°F (3°C). This solid-state temperature switch works thermostatically to maintain the optimum temperature range as prescribed by the USP Standard for Controlled Cold Temperature of 36°F to 46°F. The user cannot change or select the desired temperature.

Instead of plugging the unit into your vehicle, HCL built the unit to utilize a UL-approved Medical Grade power supply that connects to a wall socket. The unit has only one moving part with a trouble-free life expectancy of up to 60,000 working hours, or over 6½ years of continuous operation.

Thermoelectric technology is used by HCL here, because it has many advantages over refrigerant-based systems. It is of solid-state design with an integrated preset chip. It employs no hazardous gases and is virtually silent when running – no louder than a common computer. It doesn't need to employ a bulky compressor unit, and as such, can be miniaturized to fit desktop or wall mount nurse server type applications. Also, with its low-voltage design, it has the advantage of reduced power consumption and energy savings, and makes a positive contribution to green living.

Note: *Coleman® is a registered trademark of The Coleman Company, Inc.*

Features

- Keeps medications within the USP Standard for Controlled Cold Temperature USP 32 – 2009.
- Can be a stand-alone (desktop) unit or attached to a wall or surface with a wall mount bracket. HCL provides a range of mounting brackets to choose from.
- Compact, lightweight and perfect for patient room applications.
- Meets the American with Disabilities Act of 1990 wall mount guidelines of 4" depth.
- Solid-state design; integrated chip design; silent operation; thermostatically controlled.
- Provides for 2-liter storage space or 124.3 cubic inches.
- Overall Dimensions: 15"L x 3 13/16"W x 8"H (381mm x 97mm x 203mm)

Tips

The unit is not frost free and will collect moisture inside. Periodically wipe the bottom surface of the inside of the unit with a paper towel to absorb the moisture.

Thermoelectric cooling works via the transfer of thermal energy from one surface to another. Make sure that items are always in contact with the cooling surface or adjacent vials/bags, etc. – the key is contact. Do not utilize shelves or racks that suspend the product in the open air inside of the unit.

Note: *Make sure the glycol thermometer bottle is positioned in the corner per the instruction sheet on page 7 to ensure accurate readings.*

Make sure the door hinge area is clean and free of debris. Large debris can obstruct the hinge and damage the door, or prevent the unit from shutting completely.

Make sure the glycol thermometer vial cord is laying flat and exiting the top corner of the door. It is important to minimize any door obstruction to avoid excess loss of temperature within the unit. See page 7.

Cleaning and Maintenance

Caution: Unplug refrigerator before cleaning and servicing.

1. All surfaces may be cleaned inside and out with a slightly damp, non-abrasive towel. Do not over-saturate. Towel dry all water from the inside of the refrigerator. A simple paper towel may be used.
2. Do not use solvents, petroleum based cleaners or degreasers to clean the unit.
3. Diluted bleach (sodium hypochlorite) wipes or isopropyl alcohol may be used to sanitize the unit.
4. Defrosting: The unit is not considered to be frost free. Condensation commonly occurs when a water vapor reaches dew point. Water vapor will only condense onto another surface when the temperature of that surface is cooler than the water vapor. Some examples might include vials being removed from the unit and placed in a container, when the door is opened and closed and the contents are cooler than the moist air inside the unit, or during periods of high humidity when there is a difference in vial and air temperature. At times, condensation may build up on the contents of the unit which may in turn become frosted. In these situations, the unit can be turned off and wiped out. Paper towels can be used to wipe out the unit.
5. At least once a year, blow any lint/dust or dirt from the air intake, outflow vents and outside the heat sink with canned compressed air. Use short bursts of air 4" from the unit. Lint on these parts will reduce the cooling ability of the refrigerator. Power should be turned off during vent cleaning. Vent cleaning is recommended bi-monthly when the unit is used continuously.

Troubleshooting

Problem	Possible Causes	What To Do
Unit not operating or cooling	Plug not connected to unit Unit not plugged into wall	Connect power to unit Plug unit into wall outlet
Unit not cooling when plug is connected	Dust/debris in vent holes	Clean area behind vents Use compressed air <5 psi
Door will not shut	Check hinge for debris	Wipe/Clean hinge area

Product Specifications

Capacity
Internal volume = 2 liters or 124.3 cubic inches.

Dimensions & Weight
Inside Dimensions: 13"(L) x 4¼"(H) x 2¼" (W)
Outside Dimensions: 15"(L) x 8"(H) x 3 13/16" (W)
Shipping Dimensions: 16½"(L) x 9½" (H) x 5½"(W)
Empty Weight: 4 lbs
Shipping Weight: 6 lbs

Power Supply/Requirements
Unit operates on 12V DC. Unit is supplied with a 100-240V AC adapter for wall sockets. The unit consumes 4.5 amps of 12V DC power.

Power Cord
The MPU60B series of AC/DC switching mode power supplies provide 63 Watts of continuous output power. All supplies are UL94V-1 min compliant and include IEC-320-C14 input for worldwide applications. They are ideally suited for use in hospital instruments and many other applications. All models meet FCC Part-18 class B and CISPR-11 EN55011 class B emission limits and are designed to comply with UL/c-UL (UL60601-1), TUV/T-mark (EN 60601-1), and new CE requirements. Power supply comes with 10' of cord.

Cooling Performance
The unit has a preset internal solid-state temperature switch set at 37.4°F (3°C). The solid-state temperature switch has a variance of +/-1.8°F (1°C). It cools from 25°F to 35°F below the average surrounding temperature. An empty refrigerator reaches minimum temperature in approximately 3 hours. The user cannot change or select the desired temperature.

Thermostat Control
Chip in unit automatically cycles On/Off to maintain USP Temperature Range for Controlled Cold Temperature. The user cannot change or select the desired temperature.

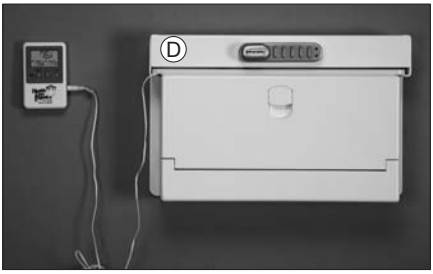
Material Composition
ABS plastic housing with polystyrene insulation material

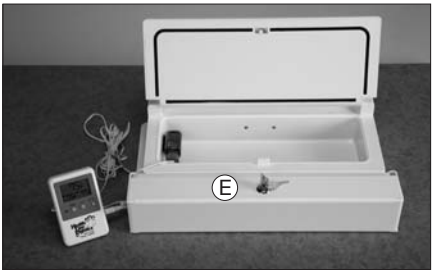
Insulation
CFC-Free

Heat Dissipation
Built-in fan (long lasting brushless motor)

Electrical Equipment
Medical grade 3 prong UL60601-1 power cord, fan motor, high temperature cut out switch, thermoelectric cooling (Peltier element).

Accessories / Replacement Parts





A. 18102 Petite Fridge (no lock)

B. 18103 Petite Fridge with Keyless Entry Digital Lock

C. 18104 Petite Fridge with Key Lock

D. 18105 Universal Locking Mount for Petite Fridge™ with Keyless Entry Digital Lock

E. 18106 Universal Locking Mount for Petite Fridge™ with Key Lock

F. 17840 Wall Mount System for Petite Fridge

Note: *Universal Locking mounts can be used for mounting the petite fridge to the wall or a surface such as a countertop.*

All of the petite fridge mounts have detailed instructions that can be found on our website at **www.HealthCareLogistics.com**

HCL's Hassle-Free Return Policy

Health Care Logistics' Hassle Free Return Policy warrants its thermoelectric medication refrigerator and power adapter to be free from defects in materials and workmanship under normal consumer usage. This policy is your exclusive remedy, and applies to the Petite Fridge™ and all accessories purchased.

We trust that you will not abuse, misuse, alter, modify or tamper with the unit and you will assure that it is used as described as its normal usage in this user's manual.

Note that defects or damage can result from: (a) improper operation, storage, misuse or abuse, accident or neglect, such as physical damage (cracks, scratches, etc.) to the surface of the product resulting from misuse; (b) contact with harsh chemicals or submersion in water or exposure to the elements or extreme heat; (c) use of non-approved accessories or subjecting the product or accessory to abnormal usage or conditions; (d) connecting the 100 - 240VAC power adapter to a power source other than that which comes standard with this unit.

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